

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference 103609 PCT	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/EP2004/011968	International filing date ( <i>day/month/year</i> ) 22.10.2004	Priority date ( <i>day/month/year</i> ) 23.10.2003
International Patent Classification (IPC) or both national classification and IPC INV. B29C31/04 B29C43/08 B29C43/34		
Applicant SACMI COOPERATIVA MECCANICI IMOLA SOCIETA'CO. et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 10 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 11 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the opinion
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 27.01.2006	Date of completion of this report 28.03.2006
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INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

10/576870  
IAP20Rec'd PCT/PTO 21 APR 2006  
International application No. PCT/EP2004/011968

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-28 as originally filed

Claims, Numbers

1-76 received on 03.02.2006 with letter of 02.02.2006

Drawings, Sheets

1/20-20/20 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).  
*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees, the applicant has:

restricted the claims.  
 paid additional fees.  
 paid additional fees under protest.  
 neither restricted nor paid additional fees.

2.  This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

complied with.  
 not complied with for the following reasons:  
**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

all parts.  
 the parts relating to claims Nos. 1-48,63-67,75,76 .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-38
	No: Claims	39-48,63-68,75,76
Inventive step (IS)	Yes: Claims	1-38
	No: Claims	39-48,63-67,75,76
Industrial applicability (IA)	Yes: Claims	1-48,63-67,75,76
	No: Claims	

2. Citations and explanations

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**see separate sheet**

Re Item IV.

IAP20 Rec'd PCT/PTO 21 APR 2006

1. This Authority considers that there are four inventions covered by the claims indicated as follows:

- I: Claims 1-48,63-67,75,76 directed to supporting the dose of material during feeding in the moulds
- II: Claims 49-55 directed to severing a dose of material from an extruder
- III: Claims 57-62 directed to conditioning the dose of material during feeding in the moulds
- IV: Claims 56,68-74 directed to compression moulding multi-layered items.

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

2. The common technical features to the inventions are identified as being:
  - a) moulding unit, having a punch and a cavity mould movable along a path between
  - b) an opening position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween (see position in fig. 1) and
  - c) a closing position in which said punch and said cavity mould interact to form an item by pressing said dose into said cavity mould,
  - d) said punch being kept not above said cavity mould along said path.
3. The prior art has been identified as document US-A-5 807 592 (D1) and discloses all the common technical features a) to d) as outlined above.
4. The following technical features of claims 1-48,63-67,75,76 make contribution over the prior art as disclosed in D1 and can be considered as special technical features within the meaning of Rule 13.2 PCT:
  - a) providing supporting means for supporting the dose of material,
  - b) the supporting means are mounted externally of the cavity mould
5. The problem to be solved by the first invention is thus identified as how to support the dose of material during feeding the dose to the moulds.

6. The following technical features of claims 49-55 make contribution over the prior art as disclosed in D1 and can be considered as special technical features within the meaning of Rule 13.2 PCT:
  - a) providing a dose delivery mouth of an extruder between the moulds,
  - b) providing a severing arrangement to sever the dose from the extruder.
7. Thus, the problem solved by the second invention according to claims 49-55 can therefore be construed as how to feed from an extruder.
8. The following technical features of claims 57-62 make contribution over the prior art as disclosed in D1 and can be considered as special technical features within the meaning of Rule 13.2 PCT:
  - a) providing channel means
  - b) the channel means surrounding the mould receiving the dose of material in the opening position.
9. Thus, the problem solved by the third invention of claims 57-62 can therefore be construed as how to condition the dose of material during feeding in the mould.
10. The following technical features according to claims 56,68-74 make contribution over the prior art as disclosed in D1 and can be considered as special technical features within the meaning of Rule 13.2 PCT:
  - a) providing a plurality of doses.
11. Thus, the problem solved by the third invention according to claims 56,68-74 can therefore be construed as how to make multi-layered items.
12. In conclusion, since the problems are different and the features which solve these problems are different, there are no corresponding special technical features; therefore the groups of claims define four different inventions not linked by a single general inventive concept.
13. The application, hence does not meet the requirements of unity of invention as defined in Rules 13.1 and 13.2 PCT.

**Re Item V.**

1. The following documents (D) are referred to in this report:

D1 US-A-5 807 592  
D2 US-A-4 943 405  
D3 WO-A-03 090 989  
D4 WO-A-03 090 990  
D5 EP-A-1 293 332  
D6 US-A-4 913 871

**I. Novelty/inventive Step**

**Claim 1**

2. The invention according to claim 1 relates to an apparatus comprising a moulding unit 3,3a having a punch 5,5a and a cavity mould 4,4a for compression moulding a dose (D) of material and a supporting arrangement for supporting the dose according to the features of claim 1. D1 is considered to be the closest prior art document.
3. In order to achieve uniform cooling conditions for the dose of material, the supporting arrangement of the invention is extending externally of the cavity mould so as to support the dose between the punch and the cavity mould.
4. This construction is neither known in the art nor can it be rendered obvious to a skilled person by the devices known from the constructions of the prior art.
5. Thus, claim 1 meets the requirements of novelty and inventive step according to Articles 33(2) and 33(3) PCT.

**Dependent Claims 2 to 32**

6. Dependent claims 2 to 32 define further advantageous and non-obvious variations of the cooling pin according to claim 1 and thus equally meet the requirements of

novelty and inventive step according to Articles 33(2) and 33(3) PCT.

**Independent Apparatus Claim 33**

7. From D2 (see column 3, line 42 to column 5, line 14; figures) there is known an apparatus comprising:
  - a) a moulding unit (see fig. 3,4) having a punch 13 and a cavity mould 5 movable between
  - b) an opening position in which said punch 13 and said cavity mould 5 are distanced apart from each other to receive a dose of plastics therebetween (see fig. 3), and
  - c) a closing position in which said punch 13 and said cavity mould 5 interact to form an item by pressing said dose into said cavity mould 4 (see fig. 4), and
  - d) supporting means 8.
8. The apparatus according to claim 33 differs from this prior art in that
  - e) the supporting arrangement is extending externally of said cavity mould 4,4a for supporting the dose between the punch and the cavity mould in the open position and
  - f) the supporting arrangement is oscillating by movable cam means.
9. These features provide the effect of supporting the dose of material during feeding outside the cavity mould.
10. This construction is neither known in the art nor can it be rendered obvious to a skilled person by the construction known from D2 even in combination with the constructions known from the prior art.
11. Thus, claim 33 meets the requirements of novelty and inventive step according to Articles 33(2) and 33(3) PCT.

**Dependent claims 34 to 38**

12. Dependent claims 34 to 38 define further advantageous and non-obvious variations of the apparatus according to claim 33 and thus equally meet the requirements of novelty and inventive step according to Articles 33(2) and 33(3) PCT.

**Independent Claims 39,43,46-48,63,**

13. These independent claims refer to details concerning the supporting arrangement. However, as the supporting arrangement is not being defined as being extending externally of the cavity mould as defined in claim 33, these claims do not meet the requirements of novelty and inventive step according to Articles 33(2) and 33(3) PCT when regarded against document D2. Moreover, these claims do not meet the requirements of clarity of art. 6 PCT (see Item VIII below).

**Dependent Claims 40-42,44,45,64-67**

14. The features of these claims do not seem to be of inventive relevance as they relate to details known from the prior art or seem to be conventional.

**Independent Method Claims 75,76**

15. The relevant features concerning the supporting arrangement being extending externally of the cavity mould are missing. The same objections as raised against the independent claims in ch. 13 above apply accordingly.

**Industrial Applicability**

16. The subject-matter of claims 1-48,63-67,75,76 is able to work, can be manufactured, and is thus looked upon as being industrially applicable.

## **II. Clarity**

1. Although apparatus claims 1,33,39,43,46-48,63 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT. The same objection apply for the independent method claims 75,76.
2. According to the requirements of clarity of Article 6 PCT all of the essential features needed to define the invention should be specified in an independent claim in such a way that a person skilled in the art would have no difficulty in arriving at the subject-matter or method according to the claim.
3. Claim 67 of the present application does not meet the requirement of clarity of Article 6 as the plurality of alternatives "and/or" does not make it possible to define the scope of protection.

## **III. Further Points**

1. The claims are not drafted in the two-part form as required by Rule 6.3 PCT.
2. The description is not consistent with the claims (see Rule 5.1(a) (ii), (iii) PCT). The documents D3,D4 (intermediate documents),D5,D6 reflecting relevant prior art concerning dose supporting arrangements, are not cited by number followed by a brief summary of the relevant contents.

10/576870

CLAIMS AP20 Rec'd PCT/PTO 21 APR 2006

1. Apparatus, comprising a moulding unit (3; 3a) having a punch (5; 5a) and a cavity mould (4; 4a) movable along a path between an open position in which said punch (5; 5a) and said cavity mould (4; 4a) are distanced apart from each other to receive a dose (D) of plastics therebetween, and a closed position in which said punch (5; 5a) and said cavity mould (4; 4a) are aligned and interact to form an item by pressing said dose (D), said punch (5; 5a) being kept at a height which is not greater than the height of said cavity mould (4; 4a) along said path, the apparatus further comprising a supporting arrangement for supporting said dose (D), said supporting arrangement extending externally of said cavity mould for supporting said dose (D) between said punch (5; 5a) and said cavity mould (4; 4a) in said open position.
2. Apparatus according to claim 1, wherein said punch (5) is placed under said cavity mould (4).
3. Apparatus according to claim 1, wherein said punch (5a) and said cavity mould (4a) are placed on a common horizontal plane.
4. Apparatus according to any preceding claim, wherein said cavity mould (4) is movable between said closed position and said open position.
5. Apparatus according to any preceding claim, wherein said punch (5; 5a) is movable between said closed position and said open position.
6. Apparatus according to any preceding claim, wherein said moulding unit (3; 3a) is mounted on a rotating carousel (2).
7. Apparatus according to any preceding claim, wherein said supporting arrangement is driven by cam means (19; 19a).
8. Apparatus according to claim 7, wherein said cam means (19a) is fixed to said punch (5a).
9. Apparatus according to claim 7, wherein said cam means (19) is fixed to said cavity mould (5).

10. Apparatus according to claim 7, as appended to claim 6, wherein said cam means (19) is fixed to said carousel (2).
- 5 11. Apparatus according to any preceding claim, wherein said supporting arrangement comprises a pair of rods (11) connected to a respective pair of levers (16a, 16b) hinged at a base body, each lever (16a) of said pair of levers (16a, 16b) being connected to the other lever (16b) of said pair of levers (16a, 16b) by a connection 10 rod (25).
12. Apparatus according to any preceding claim, wherein said supporting arrangement can be oscillated by gear means (38, 39).
- 15 13. Apparatus according to any preceding claim, wherein said supporting arrangement comprises a supporting member (11; 11a) which is movable between a dose-receiving configuration in which said supporting member (11; 11a) is so arranged as to retain said dose (D) and a dose-delivering configuration in which said supporting member 20 (11; 11a) is so arranged as to deliver said dose (D) to said moulding unit (3; 3a).
- 25 14. Apparatus according to claim 13, as appended to any one of claims 7 to 10, wherein said cam means (519) has a first portion (560) for driving said supporting member and a further supporting member in said dose-receiving configuration and a second portion (561) for driving said supporting member and said further supporting member in a dose-pinching configuration in which said dose (D) is pinched between said supporting member and said further 30 supporting member, said second portion (561) being adjacent to said first portion (560).
- 35 15. Apparatus according to claim 13 or 14, wherein said supporting member (11a) can be oscillated parallelly to an axis along which said punch (5a) and said cavity mould (4a) are movable.
16. Apparatus according to any one of claims 13 to 15,

wherein said supporting member is made from porous material.

17. Apparatus according to any one of claims 13 to 16, wherein said supporting member comprises a tubular supporting member (211) having holes (212a) through which a fluid can be injected toward said dose.

5 18. Apparatus according to any one of claims 13 to 17, wherein said supporting member is made from thermally substantially non-conductive material.

10 19. Apparatus according to any one of claims 13 to 18, wherein said supporting member (11a, 51) is substantially L-shaped.

15 20. Apparatus according to any one of claims 13 to 19, wherein said supporting member is coated by a substantially non stick material.

21. Apparatus according to any preceding claim, wherein said supporting arrangement is mounted on said punch (5).

22. Apparatus according to any one of claims 1 to 20, wherein said supporting arrangement is mounted on said cavity mould (4a).

20 23. Apparatus according to any preceding claim, wherein said supporting arrangement is actuated along said path independently of said cavity mould (4) and/or said punch (5).

25 24. Apparatus according to any one of claims 7 to 23, as appended to claim 6, wherein said supporting arrangement is mounted on said carousel (2).

25. Apparatus according to any preceding claim, and further comprising a dose-delivering mouth (48; 48a; 48b) of an extruder interposed between said punch (5) and said cavity mould (4) in said open position.

30 35 26. Apparatus according to claim 25, wherein a severing arrangement (46; 49; 49a) co-operates with said dose-delivering mouth (48; 48a; 48b) so as to sever said dose from said extruder.

27. Apparatus according to claim 26, wherein said severing

arrangement (46; 49; 49a) is mounted on said moulding unit (3; 3a).

28. Apparatus according to claim 26 or 27, wherein said severing arrangement (46) is rotatable around a respective axis (Z2).

29. Apparatus according to claim 28, wherein said severing arrangement (46) is driven by an independent motor unit.

30. Apparatus according to any one of claims 26 to 29, as claim 25 is appended to any one of claims 13 to 20, wherein said severing arrangement (46; 49; 49a) is provided with a blade (46) connected to said supporting member (11).

10 31. Apparatus according to any one of claims 26 to 30, wherein said severing arrangement is provided with a knife (49; 49a) mounted on said punch (5; 5a) or on said cavity mould (4; 4a).

15 32. Apparatus according to any preceding claim, wherein in said open position in which said punch and said cavity mould are distanced apart from each other a plurality of doses (Da, Db; 309, 310) of plastics is placed between said punch and said cavity mould, so as to interact when said punch and said cavity mould are brought in said closed position.

20 33. Apparatus, comprising a moulding unit (3; 3a) having a punch (5; 5a) and a cavity mould (4; 4a) movable between an open position in which said punch (5; 5a) and said cavity mould (4; 4a) are distanced apart from each other to receive a dose (D) of plastics therebetween, and a closed position in which said punch (5; 5a) and said cavity mould (4; 4a) interact to form an item by pressing said dose (D), a supporting arrangement extending externally of said cavity mould (4; 4a) for supporting said dose (D) between said punch (5; 5a) and said cavity mould (4; 4a) in said open position, wherein said supporting arrangement can be oscillated by movable cam means (19; 19a).

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34. Apparatus according to claim 33, wherein said cam means (19) is fixed relative to said punch (5).
35. Apparatus according to claim 33, wherein said cam means (19; 19a) is fixed relative to said cavity mould (4; 4a).
- 5 36. Apparatus, comprising a pair of rods (11) for supporting a dose of plastics between a punch and a cavity mould, said pair of rods (11) being connected to a respective pair of levers (16a, 16b) hinged at a base body, each lever (16a) of said pair of levers (16a, 16b) being connected to the other lever (16b) of said pair of levers (16a, 16b) by a connection rod (25).
- 10 37. Apparatus according to claim 36, and further comprising cam means (28, 29) associated to a lever (16a) of said pair of levers (16a, 16b) to move said pair of levers (16a, 16b) between a dose-receiving position in which a dose (D) of plastics is received on said pair of rods (11) and a dose delivering-position in which said dose (D) is delivered between said punch and said cavity mould.
- 15 38. Apparatus according to claim 37, wherein said connection rod (25) is hinged to an end portion of said lever (16a) and to an intermediate portion of a further lever (16b) of said pair of levers (16a, 16b).
- 20 39. Apparatus, comprising a moulding unit (3a) having a punch (5a) and a cavity mould (4a) movable along an axis between an open position in which said punch (5a) and said cavity mould (4a) are distanced apart from each other to receive a dose (D) of plastics therebetween, and a closed position in which said punch (5a) and said cavity mould (4a) interact to form an item by pressing said dose (D), a supporting arrangement (11a, 216) for supporting said dose (D) between said punch (5a) and said cavity mould (4a) and having a member (11a) which can be oscillated parallelly to said axis.
- 25 40. Apparatus according to claim 39, wherein said axis is substantially horizontal and said member (11a) is

oscillatable on a substantially horizontal plane.

41. Apparatus according to claim 39 or 40, wherein said member (11a) is fixed to a lever (216) capable of actuating said member (11a) between said open position and said closed position, said lever (216) comprising a first arm (50) substantially parallel to said member (11a) and a second arm (51) joining said first arm (50) and said member (11a).  
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42. Apparatus according to claim 41, wherein said second arm (51) is substantially perpendicular to said first arm (50).  
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43. Apparatus, comprising a moulding unit having a punch and a cavity mould movable between an open position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which said punch and said cavity mould interact to form an item by pressing said dose, a supporting arrangement (111) for supporting said dose between said punch and said cavity mould, wherein said supporting arrangement can be oscillated by gear means (38, 39).  
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44. Apparatus according to claim 43, wherein said moulding unit is mounted on a carousel rotatable around an axis, said gear means (38, 39) comprising first gear means (38) associated to said moulding unit and second gear means (39) stationary with respect to said carousel.  
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45. Apparatus according to claim 44, wherein said supporting arrangement comprises a supporting member (111) oscillatable on a plane substantially perpendicular to said axis.  
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46. Apparatus, comprising a moulding unit having a punch and a cavity mould movable along an axis between an open position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which said punch and said cavity mould interact to form an item  
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by pressing said dose, a supporting arrangement for supporting said dose between said punch and said cavity mould, said supporting arrangement comprising a supporting member of porous material.

5 47. Apparatus, comprising a moulding unit having a punch and a cavity mould movable along an axis between an open position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which 10 said punch and said cavity mould interact to form an item by pressing said dose, a supporting arrangement for supporting said dose between said punch and said cavity mould, said supporting arrangement comprising a tubular supporting member (211) having holes (212a) through which 15 air can be injected toward said dose (Da, Db).

48. Apparatus, comprising a moulding unit having a punch and a cavity mould movable along an axis between an open position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which 20 said punch and said cavity mould interact to form an item by pressing said dose, a supporting arrangement for supporting said dose between said punch and said cavity mould, said supporting arrangement comprising a 25 supporting member of thermally substantially non-conductive material.

49. Apparatus, comprising a moulding unit (3; 3a) having a punch (5; 5a) and a cavity mould (4; 4a) movable between an open position in which said punch (5; 5a) and said 30 cavity mould (4; 4a) are distanced apart from each other to receive a dose (D) of plastics therebetween, and a closed position in which said punch (5; 5a) and said cavity mould (4; 4a) interact to form an item by pressing said dose (D), a dose-delivering mouth (48; 48a; 48b) of 35 an extruder being interposed between said punch (5; 5a) and said cavity mould (4; 4a) in said open position.

50. Apparatus according to claim 49, wherein a severing arrangement (46; 49; 49a) co-operates with said dose-delivering mouth (48; 48a; 48b) so as to sever said dose (D) from said extruder.
- 5 51. Apparatus according to claim 50, wherein said severing arrangement (46; 49; 49a) is mounted on said moulding unit (3; 3a).
- 10 52. Apparatus according to claim 50 or 51, wherein said severing arrangement (46) is rotatable around a respective axis (Z2).
- 15 53. Apparatus according to claim 52, wherein said severing arrangement (46) is driven by an independent motor unit.
54. Apparatus according to any one of claims 50 to 53, wherein said severing arrangement (46; 49; 49a) is provided with a blade (46) connected to a supporting member (11; 11a) of a supporting arrangement for supporting said dose (D) between said punch (5; 5a) and said cavity mould (4; 4a).
- 20 55. Apparatus according to any one of claims 50 to 53, wherein said severing arrangement is provided with a knife (49; 49a) mounted on said punch (5; 5a) or on said cavity mould (4; 4a).
- 25 56. Apparatus, comprising a moulding unit having a punch and a cavity mould movable between an open position in which said punch and said cavity mould are distanced apart from each other and receive a plurality of doses of plastics therebetween, and a closed position in which said punch and said cavity mould interact to form an item by pressing said plurality of doses (Da, Db).
- 30 57. Apparatus, comprising a moulding unit (3) having a punch (5) and a cavity mould (4) one of which serving as a receiving member for receiving a dose (D) of plastics in an open position, said moulding unit (3) being movable along a path between said open position and a closed position in which said punch (5) and said cavity mould (4) interact to form an item by pressing said dose (D),

channel means (300) being provided to surround said receiving member in said open position along said path.

5 58. Apparatus according to claim 57, and comprising a further channel (303) which surrounds transferring means (8) for transferring said dose (D) from an extruder mouth (73) to said moulding unit (3), said further channel (303) extending along a further path leading towards said path.

10 59. Apparatus according to claim 59 or 60, and further comprising a supporting arrangement (11) extending externally of said moulding unit (3) and interposed between said punch (5) and said cavity mould (4) for supporting said dose (D).

15 60. Apparatus according to claim 59, wherein said supporting arrangement comprises a supporting member (11) of porous material.

61. Apparatus according to claim 59, wherein said supporting arrangement comprises a supporting member (211) having holes (212a) through which fluid can be injected toward said dose (D).

20 62. Apparatus according to claim 59, wherein said supporting arrangement comprises a supporting member of thermally substantially non-conductive material.

63. Apparatus, comprising a pair of rods (11) for supporting a dose (D) of plastics between a punch (5) and a cavity mould (4), said pair of rods (11) being actuatable by a cam arrangement (19) having a first portion (560) for driving said rods (11) in a dose-receiving position in which said dose (D) is received above said rods (11) and a second portion (561) for driving said rods (11) in a dose-pinchning position in which said dose (D) is pinched between said rods (11), said second portion (561) being adjacent to said first portion (560).

25 30 64. Apparatus according to claim 63, wherein said first portion (560) and said second portion (561) are arranged in sequence along a direction (F), said punch (5) and/or

said cavity mould (4) being movable along said direction (F) to open or close said moulding unit (3).

65. Apparatus according to claim 63 or 64, wherein said cam arrangement (19) comprises a third portion (562) for driving said pair of rods (11) in a dose-delivering position in which said dose (D) is delivered between said punch (5) and said cavity mould (4).

66. Apparatus according to claim 65, as appended to claim 64, wherein said first portion (560), said second portion (561) and said third portion (562) are arranged in sequence along said direction (F).

67. Apparatus according to any one of claims 1 to 32, and/or to any one of claims 33 to 35, and/or to any one of claims 36 to 38, and/or to any one of claims 39 to 42, and/or to any one of claims 43 to 45, and/or to claim 46, and/or to claim 47, and/or to claim 48, and/or to any one of claims 49 to 55, and/or to claim 56, and/or to any one of claims 57 to 62, and/or to any one of claims 63 to 66.

68. A mould compression item comprising a body formed from a plurality of plastic materials having different properties and/or appearance from one another.

69. An item according to claim 68, wherein said plurality of plastic materials comprises first plastic material and second plastic material.

70. An item according to claim 69, wherein said first and second plastic materials define adjacent portions (251, 252; 312, 313; 316, 318) of a container closure (250; 311; 315).

71. An item according to claim 70, wherein said adjacent portions (312, 313) are arranged one inside another in said container closure (311).

72. An item according to claim 70, wherein said adjacent portions (251, 252; 316, 318) are arranged side by side in said container closure (250, 315).

73. An item according to claim 72, wherein a hinge (317) is obtained in one of said adjacent portions.

74. Method, comprising delivering a plurality of doses (Da, Db) of plastics to a moulding unit and pressing together said plurality of doses between a punch and a cavity mould.

5 75. Method for compression moulding of plastics items, comprising forming a dose of plastic material in a moulding unit by bringing together a punch and a cavity mould, wherein before said bringing together, said dose is propelled towards either said punch, or said cavity mould.

10 76. Method for compression moulding of plastics items, comprising forming a dose (D) of plastics in a moulding unit (3) by bringing together a punch (5) and a cavity mould (4), and further comprising, before said bringing together, resting said dose (D) on a pair of rods, moving said rods close to one another so as to pinch said dose (D), and delivering said dose (D) from said rods to said moulding unit (3), wherein between said resting and said moving said dose (D) remains in contact  
15 with said rods.

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